

~~tissues, and the concentration in the above-ground tissues of at least one other metal is achieved.--~~

REMARKS

Claims 1-10 and 12 are currently pending. In this response, applicants cancel claim 12 and add new claims 13 and 14.

Claims 1-10 and 12 are rejected for obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 5,711,784 and claims 1-5 of U.S. Patent No. 5,944,872.

Applicants request that this rejection be held in abeyance pending the resolution of other issues.

Claim 12 is rejected as indefinite for using the term "including" instead of "comprising".

Claim 12 has been cancelled, therefore this rejection is now moot. New claims 13 and 14 include the "comprising" phrase requested by the Examiner.

Claim 12 is rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Brooks et al. The Examiner states that Brooks et al. discloses the *Alyssum bertolonii* Desv. plant having a concentration of 10% of nickel in its dried leaves which appears to be identical to the plant as claimed.

Claim 12 has been canceled, and new claims 13 and 14 have been added. Each of new claims 13 and 14 contains a limitation not disclosed by Brooks.

Claim 13 contains the limitation that the plant is selected from the group recited in the claim. Support can be found on page 5 of the specification. Applicants note that Brooks does not disclose any of these species. Therefore, claim 13 cannot be anticipated by Brooks.

Regarding claim 14, applicants note that this claim contains the limitation that a concentration of at least one other metal selected from the group listed in the claim must be achieved in the above-ground tissues of the plant. Applicants note that none of the recited metals are listed in the Brooks reference. Therefore, the reference fails to anticipate claim 14.

Claims 1-10 and new claim 12 remain rejected under 35 U.S.C. § 103(a) as obvious over Chaney et al. for those reasons of record. The Examiner points out that Chaney et al. is directed to phytomining Ni and Co with the hyperaccumulating *Alyssum* species by maintaining specific soil conditions such as soil pH less than 7.0, moderate to low Ca levels, Mg-rich, exchangeable Ca/Mg ratio, ammonium fertilizer and chelating agents, which improve Ni uptake in excess of 2.5% in the above ground portions of the plant.

The Examiner also states that the present invention is not rendered non-obvious by virtue of variations as to Ca, Mg or Ca/Mg ratio, so as to reach an optimum soil condition for Ni uptake in excess of 2.5%. The Examiner alleges that the present invention includes a broad range of calcium concentration (i.e., 0.128 mM to 5 mM) which appears to encompass or approximate the concentration of calcium as taught by Chaney et al.

This rejection is respectfully traversed regarding claims 1-10 and 13-14. Rather than teaching or suggesting the present invention, Chaney et al. teaches away from the present invention. Chaney et al. does disclose methods for recovering nickel from soil by growing an *Alyssum* species in soil maintained at a pH of 4.5 to 6.2 and an exchangeable calcium concentration that is 20% less than the exchangeable magnesium concentration (See col. 4, lines 4-5 and 17-18). However, as noted at page 6 of the response filed August 22, 2000, "the present claims actually require an increased amount of calcium from the very low levels disclosed in the prior art". In contrast, the disclosure of Chaney et al. teaches low concentrations of calcium in soil for nickel recovery (See col. 2, lines 47-49; Abstract). Chaney et al. teaches calcium concentration of an "absent value" to a value that is 20% less than the exchangeable soil Mg (See col. 4, lines 16-18). Chaney et al. in particular teaches that higher concentrations of calcium will reduce nickel hyperaccumulation (See col. 4, lines 19-21). Chaney et al. even teaches various methods for reducing calcium concentrations in soil (See col. 4, lines 22-26). Chaney et al. therefore teaches that lower levels of calcium in soil are necessary for the recovery of nickel. Chaney et al. contains absolutely no teaching or suggestion regarding increases in the low amounts of soil calcium as taught in the prior art. Accordingly, those of ordinary skill in the art would have no motivation to modify the teachings of Chaney et al. so as to use increased amounts of calcium, as claimed. The present invention cannot be considered obvious as Chaney et al. teaches away from the present invention.

Applicants respectfully request that the rejection be withdrawn.

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Respectfully submitted,



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